

WHAT IS CLAIMED IS:

1. A data recording control device for controlling recording of data on at least a first disc recording medium of one type and a second recording medium of another type, on which disc positional information, which corresponds to a predetermined data format, is recorded in compliance with a recording format that differs between the disc recording media types, the data recording control device comprising:

a plurality of address decoders including a first address decoder for decoding a reproduction signal of the first disc recording medium and generating disc positional information corresponding to the first disc recording medium, and a second address decoder for decoding a reproduction signal of the second disc recording medium and generating disc positional information corresponding to the second disc recording medium;

a first selector, connected to the plurality of address decoders, for selecting one of the plurality of address decoders in accordance with the type of the disc recording medium; and

a timing control circuit, connected to the first selector, for controlling the timing of writing data, based on the disc positional information of the selected address decoder, to the associated disc recording medium.

2. The data recording control device as claimed in claim 1, further comprising:

a modulation circuit, connected to the timing control circuit, for performing a predetermined modulation on data that is to be recorded to generate modulated data;

a plurality of write strategy circuits, connected to the modulation circuit, for generating a recording pulse that controls output of a recording laser beam irradiated on the

disc recording medium based on the modulated data, the plurality of write strategy circuits including a first write strategy circuit for generating a recording pulse for the first disc recording medium and a second write strategy  
5 circuit for generating a recording pulse for the second recording medium; and

a second selector for selecting one of the plurality of write strategy circuits.

10 3. The data recording control device as claimed in claim 2, further comprising:

a gate circuit, connected to the timing control circuit, for outputting the recording pulse generated by the selected write strategy circuit in response to a command from the  
15 timing control circuit.

4. The data recording control device as claimed in claim 2, wherein the timing control circuit controls the modulation circuit and the first write strategy circuit at a  
20 timing adapted to the first disc recording medium when recording data to the first disc recording medium, and controls the modulation circuit and the second write strategy circuit at a timing adapted to the second disc recording medium when recording data to the second disc recording  
25 medium.

5. The data recording control device as claimed in claim 1, further comprising:

a modulation circuit, connected to the timing control  
30 circuit, for performing a predetermined modulation on the data that is to be recorded to generate modulated data; and

a write strategy circuit, connected to the modulation circuit, for generating a recording pulse that controls an output of a recording laser beam corresponding to each type

of the disc recording medium based on the modulated data.

6. The data recording control device as claimed in claim 5, wherein the write strategy circuit includes:

5 a pulse generating section for generating the recording pulse based on the modulated data; and

a register, connected to the pulse generating section, for storing table data that sets a generation mode for the recording pulse corresponding to the type of the disc  
10 recording media.

7. The data recording control device as claimed in claim 5, wherein the write strategy circuit generates a recording pulse adapted to the type of the disc recording  
15 medium to which data is to be recorded.

8. The data recording control device as claimed in claim 5, further comprising:

a gate circuit, connected to the timing control circuit,  
20 for outputting the recording pulse in response to a command from the timing control circuit.

9. The data recording control device as claimed in claim 5, wherein the timing control circuit controls the  
25 modulation circuit and the write strategy circuit at a timing adapted to the first disc recording medium when recording data to the first disc recording medium, and controls the modulation circuit and the write strategy circuit at a timing adapted to the second disc recording medium when recording  
30 data to the second disc recording medium.

10. The data recording control device as claimed in claim 1, further comprising:

a plurality of clock signal generators for generating,

from the reproduction signals of the various types of disc recording media, a plurality of clock signals for recording data to the types of disc recording media.

5           11. The data recording control device as claimed in claim 10, wherein the plurality of clock signal generators includes a first clock generator, which generates a clock signal used to record data to the first disc recording medium based on the reproduction signal of the first disc recording  
10 medium, and a second clock generator, which generates a clock signal used to record data to the second recording medium based on the reproduction signal of the second recording medium.

15           12. The data recording control device as claimed in claim 1, further comprising:  
a clock signal generator for generating a clock signal adapted to record data on any one of the types of disc recording media, the clock signal generator generating the  
20 clock signal based on the reproduction signal of the disc recording medium to which data is to be recorded.

          13. The data recording control device as claimed in claim 1, further comprising:  
25 a clock signal generator for generating a plurality of clock signals for recording data on the types of disc recording media, the clock signal generator generating a clock signal adapted to the type of disc recording medium based on the reproduction signal of the disc recording medium  
30 to which data is to be recorded.

          14. The data recording control device as claimed in claim 1, wherein:

the disc positional information of the first disc

recording medium is recorded in a land pre-pit formed at a predetermined interval along a recording track; and

the disc positional information of the second disc recording medium is recorded in a wobble of a groove formed  
5 along a recording track.

15. A data recording device capable of recording data to at least a first disc recording medium of one type, to which disc positional information corresponding to a  
10 predetermined data format is recorded in compliance with a first recording format, and a second disc recording medium of another type, to which disc positional information is recorded in compliance with a second recording format, the data recording device comprising:

15 an optical head for irradiating a laser beam on a disc recording medium and picking up information recorded on the disc recording medium;

a plurality of address detection circuits including a first address detection circuit, which generates a first  
20 reproduction signal based on information picked up from the first disc recording medium, and a second address detection circuit, which generates a second reproduction signal based on information picked up from the second disc recording medium; and

25 a data recording control device, connected to the optical head and the plurality of address detection circuits, for controlling recording of data in accordance with the type of disc recording medium to which data is to be recorded, the data recording control device including:

30 a plurality of address decoders including a first address decoder, which decodes the first reproduction signal and generates disc positional information adapted to the first disc recording medium, and a second address decoder, which decodes a reproduction signal of the

second disc recording medium and generates disc positional information adapted to the second disc recording medium;

5        a first selector, connected to the plurality of address decoders, for selecting one of the plurality of address decoders according to the type of the disc recording medium; and

10        a timing control circuit, connected to the first selector, for controlling the timing of writing data, based on the disc positional information of the selected address decoder, to the associated disc recording medium.